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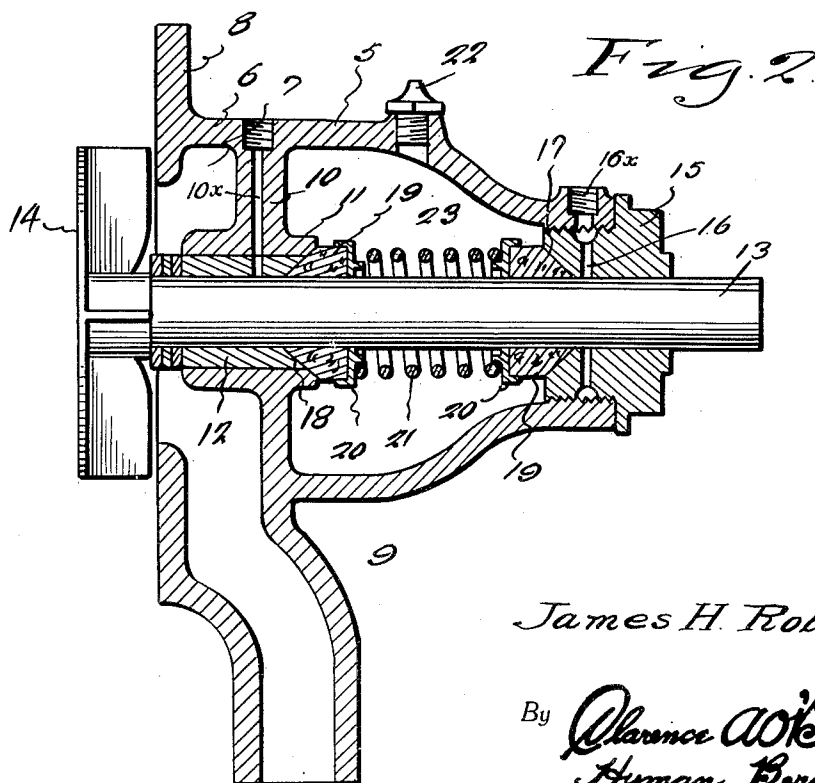
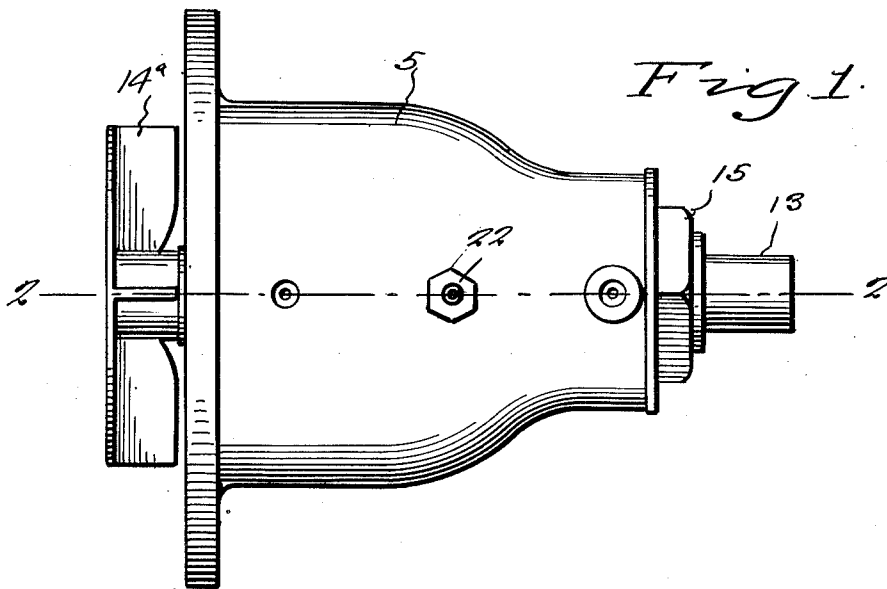
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PUMP PACKING MEANS

Filed May 16, 1936

2 Sheets-Sheet 1



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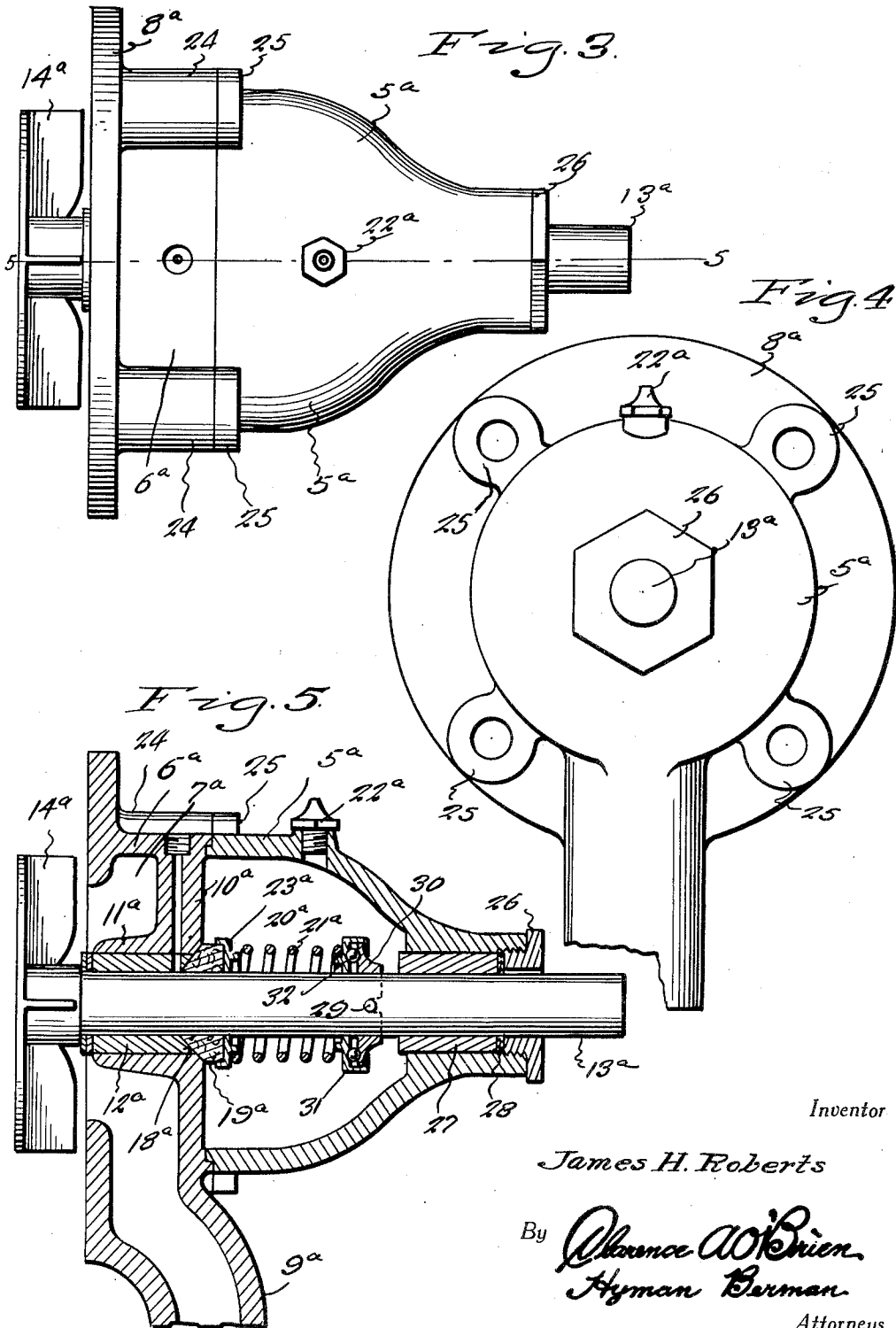
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2 Sheets-Sheet 2



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2,129,069

PUMP PACKING MEANS

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1 Claim. (Cl. 308—36.2)

This invention relates to new and useful improvements in packing means for water pumps such as are employed in automobile engine cooling systems.

5 The principal object of the present invention is to provide packing means which will be self adjusting and require practically no manual care over a considerable period of time.

10 Another important object of the invention is to provide an efficient packing means for water pumps, substantially simpler in construction and of lower cost to manufacture than constructions of this character now in general use.

15 These and various other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:

Figure 1 represents a top plan view of the packing bowl of the water pump;

20 Figure 2 is a section on line 2—2 of Figure 1;

Figure 3 is a top plan view of a modified form of packing structure;

Figure 4 is a front elevational view of the modified form of the invention;

25 Figure 5 is a sectional view on line 5—5 of Figure 3.

Referring to Figures 1 and 2, it can be seen that numeral 5 represents the bowl formed integrally with the casting 6 which has the water passageway 7 therein and which is outwardly flanged as at 8 to permit attachment of the same to the outside of the water jacket of an internal combustion engine. This casting 6 is provided with the usual hose connecting nipple 9.

35 The casting 6 is separated from the interior of the bowl 5 by the partition 10 which has the barrel formation 11 with the bronze bushing 12 therein through which the pump shaft 13 extends. The inner end of this pump shaft 13 is equipped with the usual pump rotor 14, while the outer end extends beyond the bowl so as to accommodate a pulley (not shown).

40 In the partition 10 is an oil duct 10^x to which oil can be supplied through the opening 11^x Figure 2.

45 The outer constructed portion of the bowl 5 has a plug 15 threaded into the same and this plug is provided with radially extending ducts 16 into which oil can be placed through the opening 16^x in bowl 5, Figure 2. The inner end of the plug 15 is provided with the conical-shaped seat 17, and as is clearly shown in Figure 2, the opposed end of the barrel 11 and of the bushing 12 are also provided with a seat 18 of conical shape. 50 Numerals 19—20 represent the packing elements

which are of conical shape and bored to receive the shaft 13. These conical packing elements 19—19 extend into the seats 17—18 and each is provided with a metallic cap 20 against which the ends of the coiled spring 21 engage. The spring serves to urge the packing elements 19 apart and into their corresponding seats 17—18. A fitting 22 is provided in the side of the bowl 5 through which grease can be forced into the chamber 23.

5 The modified form of the invention shown in Figures 3 to 5, inclusive, consists of the casting 6^a having the passageway 7^a therein for water and also the hose attaching nipple 9^a. Reference character 13^a represents the pump shaft carrying the rotor 14^a. The bowl 5^a is a separate unit 15 from the casting 6^a, the casting 6^a having the front wall 10^a corresponding to the partition 10 in the form of the invention shown in Figure 2. As is shown in Figure 3, the casting 6^a is provided with barrel-like formations 24 with which the apertured ears 25 on the bowl 5^a register. Bolts are inserted through the ears and the barrels and driven into the engine water jacket.

25 In the barrel formation 11^a of the front wall 10^a is the bronze bushing 12^a having the conical-shaped seat 18^a for receiving the conical-shaped packing element 19^a. This packing element 19^a is provided with the cap 20^a.

30 The constricted portion of the bowl 5^a has a nut 26 threaded into the same. Numeral 27 represents a bronze bushing in this constricted portion of the bowl 5^a and between this bushing and the nut 26 is the packing gasket 28.

35 A cross-pin 29 is provided in the shaft 13^a and carries the collar 30. Numeral 31 represents a cap engaged over the collar 30, but swivelly therewith, and between this and the collar are the ball bearings 32. A coiled compressible spring 21^a is interposed between the cap 20^a and the cap 31. Thus, one end of the spring is swivelly connected 40 to the shaft 13^a, while the other end impinges against the cap 20^a of the packing element 19^a.

Grease can be fed into the bowl 5^a through the fitting 22^a.

45 While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size, and materials may be resorted to without departing from the spirit and scope of the invention, as claimed hereinafter.

50 Having described the invention, what is claimed as new is:

In combination, a bowl having a constricted end portion in which is a large threaded opening and an oil inlet leading to said opening, and also hav-

ing adjacent to its opposite end a partition with a barrel and an oil duct leading through the partition into said barrel, a bushing in said barrel and having an opening in coincidence with said oil duct, said barrel and bushing being provided at their ends adjacent the interior of the bowl with a conical seat, a threaded plug occupying the large opening in the constricted end of the bowl and having a bore and a conical seat at the inner

end of the bore and also having an oil duct in coincidence with said oil inlet, a shaft bearing in said bushing and the bore of the plug and extending through the bowl, conical packing elements about the shaft and disposed in said seats, caps over the opposed ends of said packing elements, and a spring in the bowl and about the shaft and interposed between said caps. 5

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